

## **REMARKS**

This amendment is responsive to the Final Office Action mailed on August 28, 2009. Claims 1, 2, 4, 6-20, 22, 24-31, 33 and 35-41 stand rejected. Claims 20 has been amended. Claims 42-44 are new. In view of the following remarks, Applicant respectfully submits that this application is in complete condition for allowance and requests reconsideration of the application in this regard.

### **Rejections under 35 USC §102**

The Examiner has rejected claims 1-2, 4, 6-20, 22, 24-31, 33 and 35-41 under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 6,625,255 to Green et al. (*Green*). Of these claims, claims 1, 13, 20 and 30 are independent claims. With respect to independent claim 1, the claim recites in part “optimizing the parameters of at least one of the plurality of channels in order to improve a bit rate of the at least one of the plurality of channels in the communications system.” The Examiner continues to contend that the optimization step is disclosed at col. 7, line 64 – col. 8, line 9 of *Green*. Applicant respectfully disagrees. There is no optimization step disclosed in this passage. This portion of *Green* is a subset of the text describing the flowchart in FIG. 5. This passage of *Green* describes a process of qualifying a modem. The process described simply connects a pair of modems via a simulated reference loop and then increases the transmission rate while monitoring the bit error rate. When a threshold value of the bit error rate is reached, the modems of that type are qualified for transmission up to that data rate. According to Merriam-Webster, to optimize something is “to make as perfect, effective, or functional as possible.”<sup>1</sup> *Green* is only determining an acceptable maximum transmission rate of a particular modem, which may be used as a parameter for an optimization of a channel. However, *Green* is not optimizing any parameters associated with “at least one of the plurality of channels in order to improve a bit rate of the at least one of the plurality of channels.” The only optimization considered by *Green* is disclosed a col. 5, lines 8-19, where *Green* contemplates optimizing the data handling of loops within a telephone office using predicted data rates.

In order for a reference to anticipate a claimed invention, the reference must teach each and every element in the precise arrangement set forth in the claim. See MPEP § 2131. If

---

<sup>1</sup> "optimize." *Webster's Third New International Dictionary, Unabridged*. Merriam-Webster, 2002. <http://unabridged.merriam-webster.com> (27 Oct. 2009).

the reference fails to teach even one of the claimed features, the reference does not and cannot anticipate the claimed invention. Based on the deficiencies of *Green* identified above, Applicant respectfully requests that the rejections of claims 1, and claims 2, 4, and 6-12 which depend therefrom, be withdrawn.

New claim 42 further adds to claim 1 that “optimizing the parameters of at least one of the plurality of channels” includes “subjecting the optimizer to at least once constraint selected from . . . transfer functions and uncertainties, pricing as a function of service level, service type, spectral management rules, residential customers, home office customers, small business customers, general business customers, and combinations thereof.” Support for this claim can be found at paragraph [0065] of Applicant’s specification. *Green* fails to disclose or suggest any constraints related to the optimization, because, as set forth above, *Green* fails to disclose any optimization of parameters related to one of the plurality of channels. Therefore, new claim 42 is allowable for at least this additional reason.

With respect to independent claim 13, this claim also similarly recites in part “an optimization module, wherein the optimization module finds the optimum characterization for the at least one channel based on at least one design criteria.” As set forth above with respect to independent claim 1, *Green* fails to disclose any optimization, but rather discloses increasing the transmission rate in order to find a maximum transmission rate within an acceptable bit error rate. Furthermore, *Green* fails to disclose finding an optimum characterization based on at least one design criteria. Therefore, *Green* fails to anticipate independent claim 13. Consequently, Applicant respectfully requests that the rejections of claim 13, and claims 14-19 which depend therefrom, be withdrawn.

New claim 43 further adds to claim 13 that “optimizing the parameters of at least one of the plurality of channels” includes “subjecting the optimizer to at least once constraint selected from . . . transfer functions and uncertainties, pricing as a function of service level, service type, spectral management rules, residential customers, home office customers, small business customers, general business customers, and combinations thereof.” Support for this claim can be found at paragraph [0065] of Applicant’s specification. As set forth above, *Green* fails to disclose or suggest any constraints related to the optimization, because *Green* fails to disclose any optimization of parameters related to one of the plurality of channels. Therefore, new claim 43 is allowable for at least this additional reason.

With respect to independent claim 30, this claim also similarly recites in part “optimizing the at least one parameter of at least one channel in order to improve a bit rate of the at least one of the channels in the communications system.” As set forth above with respect to independent claims 1 and 13, *Green* fails to disclose any optimization, but rather discloses increasing the transmission rate in order to find a maximum transmission rate within an acceptable bit error rate. Therefore, *Green* fails to anticipate independent claim 30. Consequently, Applicant respectfully requests that the rejections of claim 30, and claims 31, 33, and 35-41 which depend therefrom, be withdrawn.

New claim 44 further adds to claim 30 that “optimizing the parameters of at least one of the plurality of channels” includes “subjecting the optimizer to at least once constraint selected from . . . transfer functions and uncertainties, pricing as a function of service level, service type, spectral management rules, residential customers, home office customers, small business customers, general business customers, and combinations thereof.” Support for this claim can be found at paragraph [0065] of Applicant’s specification. As set forth above, *Green* fails to disclose or suggest any constraints related to the optimization, because *Green* fails to disclose any optimization of parameters related to one of the plurality of channels. Therefore, new claim 44 is allowable for at least this additional reason.

Finally, with respect to independent claim 20, claim 20 recites in part “characterizing the at least one channel using said at least one transfer function model and said impairment.” (emphasis added). Applicant has replaced “the” with “said” in the claim to better clarify that the claim requires both “said at least one transfer function model” and “said impairment.” *Green* fails to disclose characterizing a channel using a transfer function and an impairment. Rather, in the passage cited by the Examiner, *Green* discloses characterizing a loop with a transfer function that models effects, such as attenuation, flat noise, and coupled noise of the reference loop on signals, such as tones, transmitted through it. Regardless of the fact that *Green*’s transfer function may model effects, *Green* fails to disclose characterizing a channel using both the transfer function and an impairment. (emphasis added).

In order for a reference to anticipate a claimed invention, the reference must teach each and every element in the precise arrangement set forth in the claim. *See* MPEP § 2131. If the reference fails to teach even one of the claimed features, the reference does not and cannot anticipate the claimed invention. Based on the deficiencies of *Green* identified above, Applicant

respectfully requests that the rejections of claims 20, and claims 22, 24-29 which depend therefrom, be withdrawn.

### **Conclusion**

Applicant has made a bona fide effort to respond to each and every requirement set forth in the Office Action. In view of the foregoing amendments to the claims and remarks given herein, Applicant respectfully believes this case is in condition for allowance and respectfully requests allowance of the pending claims. If the Examiner believes any detailed language of the claims requires further discussion, the Examiner is respectfully asked to telephone the undersigned attorney so that the matter may be promptly resolved. The Examiner's prompt attention to this matter is appreciated.

Applicant is of the opinion that no additional fee is due as a result of this Amendment. Payment of all charges due for this filing is made on the attached Electronic Fee Sheet. If any additional charges or credits are necessary to complete this communication, please apply them to Deposit Account No. 23-3000.

Respectfully submitted,

November 2, 2009  
Date

/Charles R. Figer, Jr./  
Charles R. Figer, Jr.  
Reg. No. 62,518

WOOD, HERRON & EVANS, L.L.P.  
2700 Carew Tower  
441 Vine Street  
Cincinnati, Ohio 45202  
Telephone: (513) 241-2324  
Facsimile: (513) 241-6234

1030082v1